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Product datasheet for MC229233

Arhgef2 (NM_001198911) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Arhgef2 (NM_001198911) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Arhgef2
Synonyms:	AA408978; GEF; GEF-H1; GEFH1; Lbcl1; Lfc; LFP40; mKIAA0651; P40
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

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Fully Sequenced ORF:

>MC229233 representing NM_001198911
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGACCGGCAGGGACAAGACCCGGGAAAAGGAGAAGATGAAGGAAGCTAAAGATGCCCGCTATACCAACG
GCCACCTCTTCACCACCATCTCCGTCTCCGGCATGACCATGTGCTATGCCTGTAACAAGAGCATCACAGC
CAAGGAAGCCCTCATTTGTCCTACATGTAACGTGACCATCCACAACCGCTGTAAAGACACCCTGGCCAAC
TGTACCAAGGTCAAGCAGAAGCAACAGAAAGCTGCACTGCTGAGGAACAACACTGCTTTGCAGTCTGTCT
CCCTTCGAACGACCACCAGAGAGCGGCCAACGTCTGCCATTTACCCTTCCGACAGCTTCCGGCAGTCCCT
CCTGGGTTCTCGGCGGGGCCTCTCCTCCTTATCTTTGGCCAAAAGTGTTTCCACTACCAACATTGCTGGA
CATTTCAATGATGAGTCTCCTCTGGGGCTGCGTCAGATCCTCTCCCAGTCCACAGACTCCCTCAACATGC
GGAACCGAACCCTGTCCGTGGAATCCCTTATTGATGAAGGTGTAGAAGTGTTCTACAATGAGCTGATGAG
CGACTTTGAGATGGATGAGAAGGACTTTGAGGCGGATTCTTGGAGCCTTGCCGTGGACAGCAGCTTCCTG
CAGCAGCACAAAAAGGAAGTGATGAAGAAGCAAGATGTCATCTATGAGCTGATCCAGACAGAGCTGCACC
ACGTGAGAACCTTGAAGATTATGACCCGCCTCTTTCGCACTGGGATGCTGGAAGAGTTGCAGATGGAGCC
AGAAGTGGTCCAGGGCCTGTTCCCCTGCGTGGATGAACTCAGTGACATTCACACACGTTTCCTTAATCAG
CTTCTGGAACGGCGGCGCCAGGCTCTATGTCCAGGCAGCACCCGGAACTTTGTCATCCATCGTTTGGGTG
ACTTGCTCATCAGTCAGTTCTCAGGTTCCAATGCTGAGCAGATGCGCAAGACCTACTCAGAGTTCTGCAG
CCGCCACACCAAGGCCTTAAAGCTCTATAAGGAGCTGTATGCTCGAGACAAACGCTTCCAACAGTTCATC
CGGAAAATGACCCGCTCAGCTGTGTTGAAGCGGCATGGAGTTCAGGAATGCATTCTCCTGGTGACTCAGC
GGATCACCAAATACCCTGTGCTCATCAACAGAATCCTGCAGAATTCCCACGGGGTTGAAGAAGAGTACCA
AGACTTGGCGTCAGCCCTAGGACTAGTGAAGGAGTTGTTGTCCAATGTGGACCAGGATGTGCACGAGCTG
GAGAAAGAGGCCCGCCTGCAGGAGATTTACAACCGAATGGATCCCCGGGCTCAGACCCCCGTACCTGGCA
AGGGCCCCTTCGGCCGAGATGAACTTTTACGGAGAAAACTTATCCATGAAGGCTGCCTGCTCTGGAAGAC
AGCCACAGGCCGCTTCAAAGATGTCCTGTTGCTGCTGATGACAGATGTGCTCGTGTTTCTCCAGGAAAAG
GACCAGAAATACATTTTCACGTCTCTGGACAAGCCCTCAGTGGTGTCCTTGCAGAACCTCATCGTAAGAG
ACATAGCCAACCAGGCGAAAGGGATGTTTCTGATTAGTTCTGGACCGCCTGAGATGTATGAGGTGCATGC
AGCGTCCCGAGACGACCGGACTACCTGGATCCGTGTCATCCAGCAGAGTGTGCGCCTGTGCCCGTCCAGG
GAGGACTTTCCTCTGATCGAGACAGAGGATAAGGCGTATCTCCGGAGGATCAAGACGAAACTGCAGCAGA
AAAACCAGGCGCTAGTGGAGCTGCTACAGAAGAATGTTGAGCTGTTTGCCGAGATGGTCCACTTCCAGGC
CTTAAAGGCTGGCTTCGTTGGAATGCCCCCACCCGCCCTGCCCAGGGGCCTTTTCCGTCTTGAGTCCTTT
GAGTCCCTCCGAGGCGAGCGCCTGCTAAAGGATGCCCTCCGTGAAGTGGAAGGCCTGAAAGACCTGCTGT
TGGGCCCATGTGTGGACCTGCCTATGACATCCCGAGAACCAGCCTTACCCTTGGACTCTGACAGCGGTAG
CTGTCCTGGGGTCACTGCCAATGGAGAGGCCAGAACCTTCAATGGCTCCATTGAACTCTGTAGAGCAGAC
TCGGATTCCAGCCAGAAGGATCGGAATGGAAATCAGTTGAGATCACCACAGGAGGAGGTGTTACAGCCAT
TGATCAATCTTTATGGACTTCTACATGGCCTGCAGGCTGTTGTGGTCCAGCAGGAAAGACTGATGGAAGC
CCTGTTCCCTGAGGGCCCTGAACGGTGGGAAAAGCTATCCCGAGCCAACTCTCGGGATGGTGAAGCTGGC
CGGGCTGCGGTTGCTTCTGTAACTCCTGAGAAGCAGGCCACGGAGCTGGCACTACTGCAGAGGCAACACA
CCCTGTTGCAGGAAGAGCTGCGGCGCTGCCAGCGGCTCGGGGAAGAGCGGGCAACTGAAGCTGGCAGCCT
GGAGGCCAGGCTCCGAGAGAGCGAGCAAGCCCGGGCCCTGCTGGAGCGGGAGGCTGAAGAGATCCGCCGG
CAGCTTGCAGCCTTGGGCCAAAACGAGCCACTCCCGGCAGAAGCGCCCTGGGCTCGCAGGCCTCTGGACC
CACGGCGCCGCAGCCTTCCAGCGGGCGACGCTTTATACTTGAGCTTCAATCCCCCCCAGCCCAGTCGAGG
CCATGACCGCCTGGATTTGCCTGTGACTGTTCGTTCCCTCCACCGACCCTTTGATGACCGAGAGGCGCAA
GAACTTGGTAGCCCCGAGGATCGACTACAGGACAGCAGTGACCCTGATACTGGTAGTGAGGAGGAAGTCA
GTAGCCGCCTGTCTCCACCTCACAGTCCTCGAGACTTCACCCGAATGCAGGACATTCCTGAAGAGACAGA
AAGCCGAGATGGGGAGCCCACAGCTTCAGAGAGCTAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Restriction Sites:	SgfI-MluI
ACCN:	NM_001198911
Insert Size:	2907 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
OTI Annotation:	Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	NM_001198911.1, NP_001185840.1
RefSeq Size:	4422 bp
RefSeq ORF:	2907 bp
Locus ID:	16800
UniProt ID:	Q60875
Cytogenetics:	3 F1

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Gene Summary: Activates Rho-GTPases by promoting the exchange of GDP for GTP. May be involved in epithelial barrier permeability, cell motility and polarization, dendritic spine morphology, antigen presentation, leukemic cell differentiation, cell cycle regulation, innate immune response, and cancer. Binds Rac-GTPases, but does not seem to promote nucleotide exchange activity toward Rac-GTPases. May stimulate instead the cortical activity of Rac. Inactive toward CDC42, TC10, or Ras-GTPases. Forms an intracellular sensing system along with NOD1 for the detection of microbial effectors during cell invasion by pathogens. Involved in innate immune signaling transduction pathway promoting cytokine IL6/interleukin-6 and TNF-alpha secretion in macrophage upon stimulation by bacterial peptidoglycans; acts as a signaling intermediate between NOD2 receptor and RIPK2 kinase. Contributes to the tyrosine phosphorylation of RIPK2 through Src tyrosine kinase leading to NF-kappaB activation by NOD2. Overexpression activates Rho-, but not Rac-GTPases, and increases paracellular permeability (By similarity). Involved in neuronal progenitor cell division and differentiation (PubMed:28453519). Involved in the migration of precerebellar neurons (PubMed:28453519). [UniProtKB/Swiss-Prot Function]
Transcript Variant: This variant (2) has multiple differences at its 5' end, including a different translation initiation site, compared to variant 1. Variant 2 encodes a shorter protein (isoform 2) with a different N-terminus, compared to isoform 1.

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